

REMARKS

Allowable Subject Matter

In the August 25, 2003 Office Action, claims 9-15 were found allowable.

Rejection of Claims and Traversal Thereof

In the August 25, 2003 Office Action,

claim 8 was rejected under 35 USC §112, second paragraph; and

claim 1 was rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 5,891,370 issued to Connor et al. (hereinafter Connor '370).

These rejections are hereby traversed in respect of the pending claims 1- 16 as amended herein.

Reconsideration of the patentability of the pending claims is therefore requested in light of the following remarks.

Rejection under 35 USC §112, second paragraph

Claim 8 has been amended thereby obviating this rejection.

Rejection under claims 35 USC §102 (e)

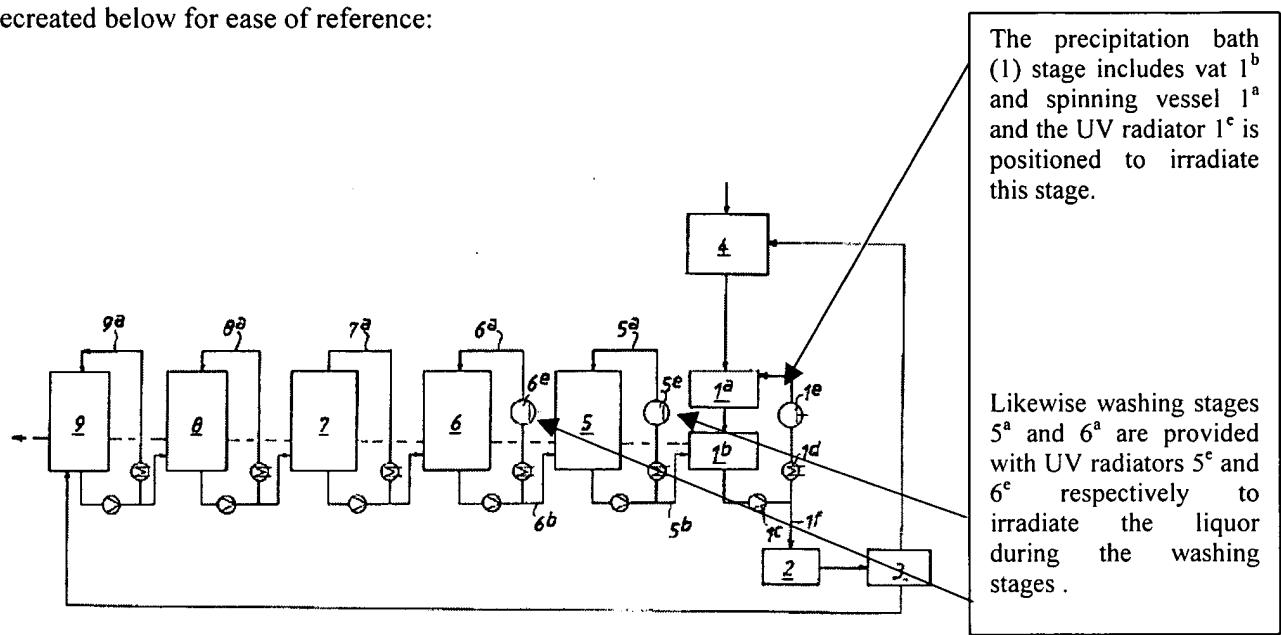
Claim 1 was rejected under 35 USC §102(e) as being anticipated by Connor '370. Applicants respectfully traverse this rejection and submit that applicants' claimed invention, is not anticipated by the cited reference.

Anticipation under 35 U.S.C. § 102(e) requires the presence in a single reference of each and every element of the claimed invention, **arranged as in the claim**. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). The device and method described by Connor '370 fails to meet this standard.

Initially it should be recognized that the presently claimed invention recites a process and system that treats the liquor of the precipitation bath in the precipitation stage and/or the washing liquor in the washing stage with ultra-violet radiation. Thus, the specified liquors are treated only during the precipitation and/or washing stages with UV radiation. As described at page 4, in the second paragraph of the present specification, applicants stress that:

"the cycle liquors of the precipitation bath and the first washing stage(s) are treated with UV radiation because these liquors offer comparatively favorable conditions (temperature, content of organic substances) for the development of microorganisms. As the liquor from the last washing stage is passed to the precipitation bath opposite to the movement of the fibres, it is repeatedly exposed to the UV radiation on this path."

The placement of the UV radiation devices is very clear as shown in Figure 1 of the present application, recreated below for ease of reference:



In contrast, Connor '370 describes a system and method for manufacturing formed objects by pressing cellulose solutions in an amine oxide of a tertiary amine and if necessary water. Hydrogen peroxide, peroxyethanoic acid, ozone or chlorine dioxide as oxidants, and is added to the coagulation bath and/or washing water for degradation of biological substances. The coagulation bath liquid and the washing water are processed, if necessary, for recovery of the amine oxide, of the tertiary amine. As stated in column 3, lines 4-10, the coagulation bath and /or washing water are diverted in order to recover the amine oxide of the tertiary amine, and the remaining hydrogen peroxide, peroxyethanoic acid, ozone or chlorine dioxide is decomposed. This decomposition is preferably accomplished by a catalytic

decomposition, although as stated at lines 53-54 of the Connor '370 reference, this decomposition in the recovering stage may also be effected by means of UV radiation.

As stated in column 4, lines 36-43, "the contents of the storage tank are circulated through a filter (6) and from time to time fed back via the filter (6) to an ion exchanger (7) and to the solvent recovery process (8)." The catalytic decomposition (which is not depicted in the diagram) takes place before the ion exchanger (7)." (emphasis added). Thus, as shown in Figure 1 of Connor '370 and recreated below for ease of reference, any irradiating of the diverted liquid occurs after the contents of the storage tank are diverted to the solvent recovery area (8).

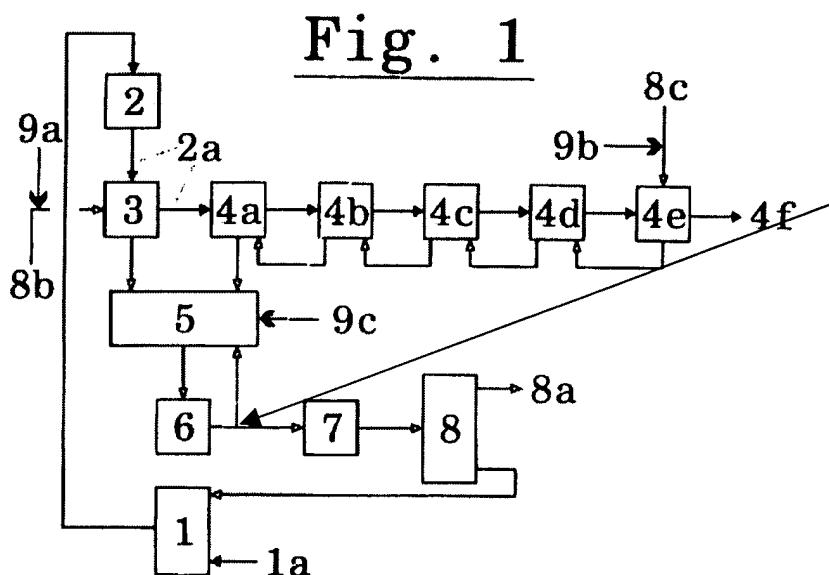


Fig. 1

Clearly the decomposition area is between the filter (6) and ion exchanger (7) because Connor expressly states that decomposition takes place before the ion exchanger (7) and this decomposition has to be effected after the contents are fed back via the filter (6) to the solvent recovery unit (8).

In the present invention the treatment of the precipitation bath and/or the washing liquor with UV-radiation is effected in step (a) (precipitation stage) or (b) (washing stage), i.e. in the production of the formed cellulosic articles. According to Connor '370, the contents of the storage tank is diverted from the production process for regeneration. Thus, use of UV-radiation in the Connor '370 process is not done in the intrinsic steps of the production process but in the secondary step of regeneration of used liquors. Further, Connor '370 does not use UV-radiation for degradation of biological substances, but instead for the decompositions of the oxidants that are used for the degradation of the biological substances. Clearly, if the oxidants used in the Connor '370 treatment are effective, the recovered liquors of Connor '370 do not contain microorganisms.

The object of the present invention is to avoid the growth of microorganisms by treating the liquors in the precipitation and/or washing stage with UV-radiation. Furthermore, according to the present invention the process is refrained from using additional chemical substances, e.g. oxidants, in order to avoid

problems of their monitoring and their reseparation (See page 2, paragraph 4 of the present specification). The inclusion of oxidants, especially peroxides in the amine oxide process, is problematical. Amine oxide itself is thermally unstable and when subjected to decomposition conditions there is the possibility of an explosion during this recycling process. Applicants have avoided these shortcomings of the prior art by eliminating the need for oxidants by using UV-radiation at the point of effectiveness during the production stage.

Thus, the Connor '370 reference does not meet the statutory requirements of an anticipating reference because each and every element of the claimed invention, arranged as in the present claims, is not found in the cited reference. Applicants submit that claim 1 and all claims depending therefrom are not anticipated by Connor '370 and request that this rejection under 35 U.S.C. §102 (e) be withdrawn.

Conclusion

Applicants have satisfied the requirements for patentability. All pending claims are free of the art and fully comply with the requirements of 35 U.S.C. §112. It therefore is requested that Examiner Tentoni reconsider the patentability of claims 1-16, in light of the distinguishing remarks herein, and withdraw all rejections, thereby placing the application in condition for allowance. Notice of the same is earnestly solicited. In the event that any issues remain, Examiner Tentoni is requested to contact the undersigned attorney at (919) 419-9350 to resolve same.

Respectfully submitted,



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